MARKED-UP VERSION OF AMENDED PARAGRAPHS

Example 1

Synthesis of 2'-hydroxy-2-(4-hydroxyphenylthio)acetophenone (Compound No. I-4)

10.0 g (79.4 mmol) of 4-mercaptophenol, 5.3 g (80.4 mmol) of potassium hydroxide and 100 mL of methanol were added under a **[cold temperature]** **room temperature** into a 200 mL flask with four inlets and attached with a stirrer and a thermometer. After confirming that potassium hydroxide added is completely dissolved, temperature inside the resultant solution was cooled down to 10°C, then 16. 9 g (78.6 mmol) of 2'-hydroxyphenacyl bromide was added to the solution and stirred for 3 hours at a **[cold temperature]** **room temperature**. Following to the completion of the reaction, the solution was extracted with methyl isobutyl ketone, hereinafter referred to as MIBK, and MIBK was distilled out of the extract under reduced pressure. The obtained residue was subjected to recrystallization process with toluene to thereby obtain 19.0 g of 2'-hydroxy-2-(4-hydroxyphenylthio)acetophenone. The yield was 93% and the melting point thereof was in a range of 139 to 141°C.

Example 2

Synthesis of 2'-hydroxy-2-(4-hydroxyphenylsulfinyl) acetophenone (Compound No. I-5)

6.0 g (23.1 mmol) of 2'-hydroxy-2-(4-hydroxyphenylthio) acetophenone and 50 mL of acetic acid were added under a **[cold temperature]** **room temperature** into a 100 mL flask with four inlets and attached with a stirrer and a thermometer. To the resultant solution, 2.8 g (24.7 mmol) of 30% aqueous solution of hydrogen peroxide was added, and the solution was stirred for 12 hours at a **[cold temperature]** **room temperature**. Following to the completion of the reaction, 0.5 g of dimethyl sulfide was added into the solution, and then, the solution was extracted with MIBK. The MIBK layer was washed several times with water, and followed by washing with sodium hydrogencarbonate. The MIBK in the solution was distilled out under reduced pressure, and the resultant residue was subjected to recrystallization with ethyl

acetate to obtain 4.5 g of 2'-hydroxy-2-(4-hydroxyphenylsulfinyl) acetophenone. The yield was 71% and the melting point of the compound was in a range of 166 to 167°C.

Example 3

Synthesis of 2'-hydroxy-2-(4-hydroxyphenylsulfonyl) acetophenone (Compound No. I-6)

6.0 g (23.1 mmol) of 2'-hydroxy-2-(4-hydroxyphenylthio) acetophenone and 50 mL of chloroform were added under a **[cold temperature]** **room temperature** into a 100 mL flask with four inlets and attached with a stirrer and a thermometer. To the resultant solution, 11.2 g (48.5 mmol) of m-perchlorobenzoic acid (purity 75%) was added a few at a time under a **[cold temperature]** **room temperature**, and the solution was stirred for 4 hours. Following to the completion of the reaction, 0.5 g of dimethyl sulfide was added into the solution, and then, the solution was extracted with chloroform. The chloroform layer was washed with aqueous solution of sodium hydrogencarbonate. The chloroform in the solution was distilled out under reduced pressure, and the resultant residue was subjected to recrystallization with toluene to obtain 5.0 g of 2'-hydroxy-2-(4-hydroxyphenylsulfonyl)acetophenone. The yield was 74% and the melting point of the compound was in a range of 143 to 146°C.

Example 7

Synthesis of 2-(4-hydroxyphenylsulfinyl)acetoanilide (Compound No. II-1)

6.0 g (23.2 mmol) of 2-(4-hydroxyphenylthio)acetoanilide and 50 mL of acetic acid were added under a **[cold temperature]** **room temperature** into a 100 mL flask with four inlets and attached with a stirrer and a thermometer. To the resultant solution, 2.8 g (24.7 mmol) of 30% aqueous solution of hydrogen peroxide was added, and the resultant solution was stirred for 12 hours at a **[cold temperature]** **room temperature**. Following to the completion of the reaction, 0.5 g of dimethyl sulfide was added into the solution, and then, the solution was extracted with MIBK. The MIBK layer was washed several times with water, and followed by washing with sodium hydrogencarbonate. The MIBK in the solution was distilled out under reduced pressure, and the resultant residue was subjected to recrystallization with MIBK to obtain 5.9 g of 2-(4-hydroxyphenylsulfinyl)acetoanilide. The yield was 93% and the melting point of the compound was in a range of 208 to 210°C.

Example 8

Synthesis of 2-(4-hydroxyphenylsulfonyl)acetoanilide (Compound No. II-2)

6.0 g (23.2 mmol) of 2-(4-hydroxyphenylthio)acetoanilide and 50 mL of acetic acid were added under a **[cold temperature]** **room temperature** into a 100 mL flask with four inlets and attached with a stirrer and a thermometer. To the resultant solution, 5.6 g (49.4 mmol) of 30% aqueous solution of hydrogen peroxide was added, and the solution was stirred for 4 hours at a **[cold temperature]** **room temperature** and consequently for 5 hours at 100°C. Following to the completion of the reaction, 0.5 g of dimethyl sulfide was added into the solution, and then, the solution was extracted with MIBK. The MIBK layer was washed several times with water, and followed by washing with sodium hydrogencarbonate. The MIBK in the solution was distilled out under reduced pressure, and the resultant residue was subjected

to recrystallization with MIBK to obtain 5.8 g of 2-(4-hydroxyphenylsulfonyl) acetoanilide. The yield was 86% and the melting point of the compound was in a range of 188 to 189°C.